

In the Claims:

1. (Currently amended) An integrated circuit device, comprising:
a search engine that supports ~~is configured to support~~ a plurality of consecutive search operations in a corresponding plurality of databases within an internal CAM core using a corresponding plurality of search keys, said plurality of search keys comprising:

a first search key that requires at least one data cycle to load into said search engine before a first search of a first one of the plurality of databases is performed using a first search word derived from the first search key; and

a second search key that comprises a replacement search key segment and at least one search key segment from the first search key.

2. (Original) The device of Claim 1, wherein the plurality of consecutive search operations comprises a second search of a second one of the plurality of databases using a second search word derived from the second search key.

3. (Original) The device of Claim 2, wherein the second search key is shorter than the first search key.

4. (Original) The device of Claim 2, wherein none of the plurality of search keys is longer than the first search key.

5. (Original) The device of Claim 2, wherein the replacement search key segment requires one data cycle to load into said search engine.

6. (Original) The device of Claim 5, wherein the plurality of search keys comprise a third search key that comprises another replacement search key segment and at least one search key segment from the first search key; wherein the another replacement search key segment requires one data cycle to load into said search engine; and wherein the another replacement search key segment is loaded into said search engine after the replacement search key segment is loaded into said search engine.

7. (Original) The device of Claim 6, wherein the replacement search key segment and the another replacement search key segment have equivalent values.

8. (Original) The device of Claim 7, wherein the plurality of consecutive search operations comprises a third search of a third one of the plurality of databases using a third search word derived from the third search key; and wherein the second and third search words are different.

9. (Currently amended) The device of Claim 2, wherein the first search key requires multiple data cycles to load into said search engine; and wherein the replacement search key segment requires fewer than the multiple data cycles to load into said search engine.

10. (Currently amended) An integrated circuit device, comprising:
a search engine that ~~supports~~ ~~is configured to support~~ a plurality of consecutive search operations in a corresponding plurality of databases within an internal CAM core using a corresponding plurality of search keys, said plurality of search keys comprising:

a first search key that requires at least one data cycle to load into said search engine before a search of a first of the plurality of databases is performed using a search word that is derived from the first search key;
and

a second search key that comprises at least one search key segment from the first search key and another search key segment that is loaded into said search engine after the first search key.

11. (Original) The device of Claim 10, wherein the plurality of consecutive search operations comprises a second search of a second one of the plurality of databases using a second search word derived from the second search key.

12. (Original) The device of Claim 11, wherein the second search key is longer than the first search key.

13. (Original) The device of Claim 11, wherein the another search key segment requires one data cycle to load into said search engine.

14. (Currently amended) An integrated circuit device, comprising:
a search engine that supports ~~is configured to support~~ a plurality of consecutive search operations in a corresponding plurality of databases within an internal CAM core, using a corresponding plurality of search keys that include a longest first search key that requires multiple cycles to load into said search engine before a search of a first of the plurality of databases is performed and at least one shortest search key that requires fewer than the multiple cycles to load into said search engine and comprises a replacement search key segment and at least one search key segment derived from the longest first search key.

15. (Currently amended) An integrated circuit device, comprising:
a search engine that supports ~~is configured to support~~ a plurality of consecutive search operations in a corresponding plurality of databases within an internal CAM core using a corresponding plurality of search keys, said plurality of search keys comprising:

a first search key that requires multiple data cycles to load into said search engine before a first search of a first one of the plurality of databases is performed;

a second search key that comprises a first replacement search key segment and at least a first search key segment derived from the first search key; and

a third search key that comprises a second replacement search key segment and at least a second search key segment derived from the first search key.

16. (Currently amended) The device of Claim 15, wherein the first search key segment ~~from the first search key~~ and the second search key segment ~~from the first search key~~ are equivalent search key segments.

17. (Original) The device of Claim 15, wherein the first replacement search key segment requires only one data cycle to load into said search engine.

18. (Original) The device of Claim 17, wherein the second replacement search key segment is loaded into said search engine after the first replacement search key is loaded into said search engine.

Claims 19-25 (Canceled).

26. (New) A method of operating a search engine device, comprising the steps of:

searching one or more databases within the search engine device using a first search key that takes multiple data cycles to load into the search engine device; and then

searching one or more databases within the search engine device using a second search key that is unequal to the first search key and comprises a search key segment from the first search key and a replacement search key segment that is loaded into the search engine device after the first search key has been loaded into the search engine device.

27. (New) The method of Claim 26, wherein the replacement search key segment requires one data cycle to load into the search engine device.